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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,119	10/26/2001	Kiyoshi Uchiyama	13249.348	2190

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EXAMINER

CHEN, BRET P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

file eb3

Office Action Summary

Application No.

10/007,119

Applicant(s)

UCHIYAMA ET AL.

Examiner

B. Chen

Art Unit

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 24-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claims 1-30 are pending in this application.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-23, drawn to a method, classified in class 427, subclass 99.
- II. Claims 24-30, drawn to a composition, classified in class 252, subclass 518.1.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process such as coating processes without the claimed “mist” or “vaporizing” steps.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Carl Forest on December 22, 2003, a provisional election was made without traverse to prosecute the invention of Group 1, claims 1-23.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 24-30 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

The disclosure is objected to because of the following informalities listed below. Appropriate correction is required.

On p.10 line 17, the attempt to incorporate subject matter into this application by reference to 08/477111 is improper because there is no recitation that the application is commonly assigned. Reliance on a commonly assigned copending application by a different inventor may ordinarily be made for the purpose of completing the disclosure. See *In re Fried*, 329 F.2d 323, 141 USPQ 27, (CCPA 1964), and *General Electric Co. v. Brenner*, 407 F.2d 1258, 159 USPQ 335 (D.C. Cir 1968).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kadokura et al. (6,469,189) in view of Paz de Araujo et al. (6,110,531) and vice versa.

Kadokura discloses a method of producing an oxide thin film by a CVD method using a specific compound (col.8 lines 32-34). The compound is bubbled with an inert gas at a temperature of 150-250°C and is dissolved in a solvent and subsequently vaporized (col.8 lines 44-51) onto a heated substrate (line 67). In one embodiment, the compound can be trimethylbismuth (col.9 line 11). The final product can be a thin film of bismuth layer-structured perovskite (col.11 lines 9-10) which can be used in a nonvolatile memory (col.1 line 23). The aforementioned structure meets the limitation of a superlattice as defined on p.1 of the applicant's specification. However, the reference fails to specifically teach a mist.

Paz de Araujo discloses a method of forming an integrated circuit thin film containing a layered superlattice compound by CVD using a mist from a liquid precursor which is transported in a carrier gas (col.2 lines 1-26). A bismuth compound can be utilized (see Table 1). However, the reference fails to teach a trimethylbismuth compound.

It should be noted that the Kadokura clearly teaches a solution containing the compound which is subsequently vaporized. Paz de Araujo teaches that a mist can be utilized to form superlattice layers. It would have been obvious to utilize the mist of Paz de Araujo in Kadokura's process with the expectation of obtaining similar results.

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In addition, it would have been obvious to incorporate the bismuth compound of Kadokura in Paz de Araujo's process with the expectation of obtaining a compound which can be easily distilled.

The limitations of claims 2-5, 9-15, 18-21, and 23 have been addressed above.

In claims 6-8, 16-17, and 22, the applicant requires a specific percentage, temperature, and thickness. It is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art.

Berry et al. (5,314,866) and Shenai-Khatkhate et al. (6,660,874) have been provided for additional information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Chen whose telephone number is (571) 272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bc
2/5/04


BRET CHEN
PRIMARY EXAMINER